

6.3.1 Strategies and Actions for the North Coast Stratum

North Coast Stratum for Oregon Coast Coho Salmon

Independent Populations: Necanicum, Nehalem, Tillamook and Nestucca

Dependent Populations: Ecola, Arch Cape, Short Sands, Spring, Watseco, Netarts, Rover, Sand, and Neskowin

Current Status: Moderate level of certainty that the North Coast Stratum is sustainable

Primary Limiting Factor: Stream complexity (all North Coast Stratum populations)

Secondary Limiting Factors: Water quality (Nehalem and Tillamook populations)

Recovery Strategy for the North Coast Stratum

The basic recovery strategy for coho salmon populations in the North Coast Stratum aims to protect freshwater and estuarine reaches that currently contain high quality habitat, and restore reaches with potential for additional high quality habitat. Actions will particularly focus on increasing the amount and quality of winter rearing habitat by improving stream and estuarine habitat complexity. Efforts are needed to increase amounts of large wood and pool habitat, and to connect side channels, wetlands, and other off-channel areas. Actions will also improve water quality, especially by reducing summer water temperatures and agricultural runoff in the Tillamook population area.

The following actions illustrate the types of actions that could be implemented to improve North Coast Stratum coho salmon populations and habitats. Other approaches could also be implemented to achieve the desired results. The actions will be further refined, sequenced, and scheduled in coordination with other agencies and local stakeholders.

Key Strategies and Potential Actions for the North Coast Stratum

- Implement and, as necessary, revise local regulatory mechanisms, voluntary and incentivized efforts to protect and restore watershed processes that promote winter and summer rearing habitats (e.g., wood recruitment, habitat complexity, floodplain connectivity, beaver pond habitat, increasing native riparian vegetation etc.). Examples of regulatory programs include the Oregon Agricultural Water Quality Management Act, Oregon Forest Practices Act, FEMA National Floodplain Insurance Program, and state beaver statutes and administrative rules. While increased statutory protections could strengthen recovery efforts, they may not be necessary if voluntary programs are shown to be effective in achieving ecosystem health, including water quality and increased habitat complexity. (See actions identified in Section 6.2.1.2, under Listing Factor A1, habitat actions at the ESU level.)
- Develop and approve scientifically credible, thorough Strategic Action Plans for the Necanicum, Nehalem, Tillamook, and Nestucca populations, consistent with ESU-level common framework.
- Implement the Strategic Action Plans to protect and restore ecosystem processes and functions and coho salmon habitats. Actions identified in SAPs will likely include

activities such as restoring habitat capacity for rearing juvenile coho salmon by increasing large wood loading, beaver pond habitat, and wetland/ off-channel connectivity, and by increasing native riparian vegetation to provide bank stability and shade stream reaches.

- Collaborate with governmental and non-governmental organizations and others to identify, and implement, actions that will protect and restore watershed processes, provide stream complexity for juvenile rearing, connect side channels, wetland and off-channel habitats, and reduce fine sediment levels.
- Coordinate with ODEQ, ODF, ODA, and others to improve water quality, especially water temperatures, to increase carrying capacity and provide high quality summer rearing habitat for juvenile coho salmon.
- Collaborate with SWCDs, ODA, and others to increase effectiveness of current agricultural water quality area rules and plans in order to meet water quality goals in the Tillamook population area.
- As resources allow, develop and approve scientifically credible, thorough Strategic Action Plans for the Ecola, Arch Cape, Short Sands, Spring, Watseco, Netarts, Rover, Sand, and Neskowin populations, consistent with ESU-level common framework.
- Provide and support public outreach, education, and volunteer actions to protect and restore ecosystem process and functions, encourage beaver conservation and beaver dam analogues, and improve juvenile coho salmon rearing habitats.
- Improve wood recruitment to support long-term increases in habitat complexity by improving timber harvest activities and agricultural practices.
- Increase habitat complexity by increasing large wood, boulders, or other instream structure and conducting riparian planting projects.
- Improve floodplain connectivity by increasing beaver pond abundance and reducing or limiting development of channel-confining structures, including roads and infrastructure.
- Continue to implement weak stock management approach for fisheries according to Amendment 13 harvest matrix. Typically the North Coast Stratum populations are the weakest stocks in need to most protection under Amendment 13.

Priority Watershed Actions

Rural (including residential and agricultural) Lands

1. Protect and restore riparian areas adjacent to stream channels using voluntary actions with regulatory backstops in place.
2. Plant and restore riparian vegetation adjacent to stream channels.
3. Increase habitat complexity by increasing large wood, boulders, or other instream structure, through improved ecosystem functions wherever possible.
4. Improve lateral connectivity between stream channels and adjacent wetlands and connectivity with floodplains.

Timber Lands

1. Increase protective management of riparian forests, including management that increases the sustainable natural recruitment of large wood into the rivers and streams through voluntary programs or increased regulatory mechanisms.
2. Eliminate the construction of permanent new roads, unless constructed to relocate another permanent road that has greater impacts on Oregon Coast coho salmon habitat, and replace culverts where needed to comply with current guidelines.
3. Decommission roads where practicable.
4. Increase habitat complexity by increasing large wood, boulders, or other instream structure.

Secondary Watershed Actions

Beaver Management

1. Include strategies to increase beaver, beaver ponds, and beaver dam analogues in strategic action plans.
2. Seek agreements with state and federal agencies and others to pursue non-lethal means of beaver removal (see Section 6.2.1.2, A1-1.2 above). If necessary, revise regulatory mechanisms to prohibit killing of beaver within the range of Oregon Coast coho salmon unless property or infrastructure damage is occurring and only when all other options are exhausted.
3. Create a program to educate landowners, managers, policymakers and the public in general about the benefits of beaver ponds to the health of our ecosystems, with a focus on benefits to salmonids. Include opportunities to conserve and manage beaver through cost effective, non-lethal management practices (Pollock et al. 2015).
4. Implement the Beaver Restoration Guidebook (Pollock et al. 2015) to incorporate beaver, beaver ponds, and beaver dam analogues into restoration actions.

Table 6-4. Habitat component specific actions to restore high quality coho salmon habitat in the North Coast Stratum.

Action ID	Habitat component	Strategy	Action	Area	Priority
NCS-1	Tributaries	Improve water quality by improving water temperature	Improve water quality by improving stream shade	Tillamook and Nehalem Populations	High
NCS-2	Tributaries	Improve wood recruitment to support long-term increases in habitat complexity	Improve timber harvest activities (increased harvest buffers on private and state timberlands)	All Populations	High
NCS-3	Tributaries	Increase habitat complexity	Improve agricultural practices (reduce or disallow stream channel dredging in ESA-listed streams flowing through or adjacent to rural lands)	All Populations	Medium
NCS-4	Tributaries	Increase habitat complexity	Increase large wood, boulders, or other instream structure	All streams where coho salmon would benefit immediately	High
NCS-5	Tributaries	Increase habitat complexity	Conduct riparian planting projects on streams that flow through or adjacent to agricultural lands to increase wood recruitment to streams	All Populations	High
NCS-6	Off-Channel	Increase habitat complexity and connectivity to side-channels	Increase large wood, boulders, or other instream structure	All Populations	Medium
NCS-7	Off-Channel and Wetlands	Increase habitat complexity and connectivity and access to alcoves, off-channel ponds, floodplains, and wetlands	Increase beaver pond abundance	All Populations	Medium
NCS-8	Wetlands	Improve direct and indirect wetland connectivity to streams	Reduce existing and limit development of channel-confining structures including roads and infrastructure in the floodplain that disconnect wetlands from tributaries and mainstems	All Populations	Medium
NCS-9	Mainstems	Improve wood recruitment to support long-term increases in habitat complexity	Support voluntary programs to increase stream complexity in rural areas.	All Populations	Medium
NCS-10	Mainstems	Improve water quality by improving water temperature	Improve water quality by improving stream shade	Tillamook and Nehalem Populations	High
NCS-11	Mainstems	Improve water quality by improving water temperature	Improve water quality by improving stream shade	All Populations	Medium

Action ID	Habitat component	Strategy	Action	Area	Priority
NCS-12	Mainstems	Improve water quality by improving water temperature	Improve water quality by improving instream flows	Tillamook Population	High
NCS-13	Mainstems	Improve marginal and streambank habitat complexity	Increase large wood and marginal and streambank habitat structure	All streams where coho salmon would benefit immediately	High
NCS-14	Mainstems	Improve marginal and streambank habitat complexity	Increase large wood and marginal and streambank habitat structure	All Populations	Medium
NCS-15	Mainstems	Improve wood recruitment to support long-term increases in habitat complexity	Improve timber harvest activities (increased harvest buffers on private industrial timberlands, reduce road densities on private and federal timberlands)	All streams where coho salmon would benefit immediately	High
NCS-16	Mainstems	Improve wood recruitment to support long-term increases in habitat complexity	Improve timber harvest activities (increased harvest buffers on private industrial timberlands, reduce road densities on private and federal timberlands)	All Populations	Medium
NCS-17	Mainstems	Increase habitat complexity	Improve gravel mining practices making them consistent with other streams in Oregon (Chetco River and Hunter Creek) by implementing standard best management practices to retain gravel bar form and function (per Federal Interagency Working Group 2006). Explore upland rock/gravel sources for similar quality rock for quarrying, rather than removing from river bottom.	Tillamook and Nehalem Populations	Medium
NCS-18	Estuary	Increase access to sloughs, side channels, and floodplains	Reduce fish passage barriers to floodplains by managing tidegate presence and operations.	All Estuaries	High
NCS-19	Estuary	Increase access to sloughs, side channels, and floodplains	Reduce fish passage barriers to floodplains by reducing or setting dikes back or completely removing tidegates and dikes where feasible.	All Estuaries	High